CLAIMS:

1. An optical module comprising:

an optical fiber array, wherein the optical fiber array has at least one optical fiber, wherein the optical fiber array includes an outgoing end surface, and wherein the optical fiber includes a central axis of the optical fiber; and

a lens array, wherein the lens array has at least one microlens, wherein the lens array includes an incoming end surface, which faces the outgoing end surface of the optical fiber array, and an outgoing end surface, which sends out a light that is transmitted through the microlens, and wherein the microlens has an optical axis,

wherein the outgoing end surface of the optical fiber array is formed to be inclined with respect to the central axis of the optical fiber, wherein the incoming end surface of the lens array is formed to be inclined with respect to the optical axis of the microlens, and wherein the relative position of the optical fiber array and the lens array is adjusted such that an inclination angle of the outgoing light sent out from the outgoing end surface of the lens array with respect to the optical axis of the microlens becomes an optimal angle.

2. The optical module according to claim 1, wherein three surfaces, which include the outgoing end surface of the optical fiber array, the incoming end surface of the lens array, and the outgoing end surface of the lens array, are inclined with respect to the central axis of the optical fiber, and wherein the relative position of the optical fiber array and the lens array is adjusted such that the outgoing light becomes parallel with the central axis of the optical fiber.

3. The optical module according to claim 2, wherein

the outgoing end surface of the optical fiber array and the incoming end surface of the lens array are arranged to be inclined with respect to the central axis of the optical fiber by an angle that is equivalent to the optimal angle, wherein the incoming end surface of the lens array is arranged to face the outgoing end surface of the optical fiber array in parallel, wherein the three surfaces are inclined with respect to the central axis of the optical fiber, and wherein the outgoing light is made parallel with the central axis of the optical fiber by shifting the lens array in parallel with the outgoing end surface of the optical fiber array.

4. The optical module according to claim 2, wherein the lens array includes a transparent lens substrate, wherein the lens substrate has a first end surface and a second end surface, which are on opposite sides of the lens substrate, wherein the microlens is located on the first end surface, and wherein the second end surface forms the incoming end surface of the lens array.

5. The optical module according to claim 1, wherein the outgoing end surface of the optical fiber array and the outgoing end surface of the lens array are inclined with respect to the central axis of the optical fiber by different angles, wherein the incoming end surface of the lens array is arranged perpendicular to the optical axis of the microlens, and wherein the three surfaces are inclined with respect to the central axis of the optical fiber by placing the incoming end surface of the lens array at a predetermined angle with respect to the outgoing end surface of the optical fiber array.

6. The optical module according to claim 5, wherein the lens array includes a transparent lens substrate, wherein the microlens is located on a first end surface of the lens substrate, and wherein the first end surface of the lens

substrate serves as the incoming end surface of the lens array.

7. The optical module according to claim 1, wherein the outgoing end surface of the optical fiber array and the incoming end surface of the lens array are inclined by the same angle, wherein the outgoing end surface of the lens array is arranged perpendicular to the optical axis, wherein the incoming end surface of the lens array faces the outgoing end surface of the optical fiber array in parallel, and wherein the inclination angle of the outgoing light with respect to the optical axis of the microlens is maintained at the optimal angle by shifting the lens array in parallel with the outgoing end surface of the optical fiber array.

8. The optical module according to claim 7, wherein the optical module includes an angle compensating member, which retains the optical fiber array and the lens array to be inclined with a horizontal surface such that the outgoing light becomes horizontal.

9. The optical module according to claim 1, wherein the optimal angle is substantially -0.84 degrees, wherein when the outgoing light is inclined lower than the optical axis of the microlens, the angle between the outgoing light and the optical axis of the microlens is expressed by a negative value.

10. An optical module comprising:

an optical fiber array, wherein the optical fiber array has a plurality of optical fibers, which are arranged perpendicular to each other at predetermined intervals, and a capillary, which supports the optical fibers, wherein the optical fiber array includes an outgoing end surface, and wherein each optical fiber includes a central axis;

a lens array, wherein the lens array has a plurality of microlenses, wherein each microlens corresponds to one of the

optical fibers, wherein the lens array includes an incoming end surface, which faces the outgoing end surface of the optical fiber array, and an outgoing end surface, which sends out light that is transmitted through the microlens, and wherein each microlens has an optical axis,

wherein the outgoing end surface of the optical fiber array is formed to be inclined with respect to the central axis of each optical fiber, wherein the incoming end surface of the lens array is formed to be inclined with respect to the optical axis of each microlens, and wherein the relative position of the optical fiber array and the lens array is adjusted such that the inclination angle of the outgoing light sent out from the outgoing end surface of the lens array with respect to the optical axis of each microlens becomes an optimal angle.

11. The optical module according to claim 10, wherein three surfaces, which include the outgoing end surface of the optical fiber array, the incoming end surface of the lens array, and the outgoing end surface of the lens array, are inclined with respect to the central axis of each optical fiber, and wherein the relative position of the optical fiber array and the lens array is adjusted such that the outgoing light becomes parallel with the optical axis of each microlens.

12. The optical module according to claim 11, wherein the outgoing end surface of the optical fiber array and the incoming end surface of the lens array are arranged to be inclined with respect to the central axis of the optical fiber by an angle that is equivalent to the optimal angle, wherein the incoming end surface of the lens array is arranged to face the outgoing end surface of the optical fiber array in parallel, wherein the three surfaces are inclined with respect to the central axis of each optical fiber, and wherein the outgoing light is made parallel with the central axis of each

optical fiber by shifting the lens array in parallel with the outgoing end surface of the optical fiber array.

13. The optical module according to claim 11, wherein the lens array includes a transparent lens substrate, wherein the lens substrate has a first end surface and a second end surface, which are on opposite sides of the lens substrate, wherein the microlenses are located on the first end surface, and wherein the second end surface forms the incoming end surface of the lens array.

14. The optical module according to claim 10, wherein the outgoing end surface of the optical fiber array and the outgoing end surface of the lens array are inclined with respect to the central axis of the optical fiber by different angles, wherein the incoming end surface of the lens array is arranged perpendicular to the optical axis of each microlens, and wherein the three surfaces are inclined with respect to the central axis of each optical fiber by placing the incoming end surface of the lens array at a predetermined angle with respect to the outgoing end surface of the optical fiber array.